FACT SHEET

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General Permit No. **AKG-31-0000**

PROPOSED MODIFICATION OF A GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT (the Act) FOR

FACILITIES RELATED TO OIL AND GAS EXTRACTION

This fact sheet includes (a) the tentative determination of the Environmental Protection Agency (EPA) to modify the general permit, (b) information on public comment, public hearing and appeal procedures, (c) a description of the proposed discharges, and (d) a listing of tentative effluent limitations and other conditions.

Persons wishing to comment on the tentative modifications contained in the proposed modified general permit may do so by the expiration date of the Public Notice. All written comments should be submitted to EPA as described in the Public Comments Section.

After the expiration date of the Public Notice, the Director, Office of Water, will make final determinations with respect to permit issuance.

A General Permit follows rulemaking procedures so EPA's issuance and promulgation activities must be conducted in accordance with the Administrative Procedure Act (APA). The modifications in this general permit will become effective 30 days after publication of the final modified general permit in the Federal Register according to Section 553(d) of the APA. Anyone wishing to appeal the modifications in this general permit must do so in court according to 40 CFR §124.71. Interested persons may challenge the modifications, within 120 days of issuance, in the Circuit Court of Appeals of the United States under Section 509(b)(1) of the Act.

The proposed NPDES modified general permit and other related documents are on file and may be inspected at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to EPA at the above address to the attention of Cindi Godsey, or by calling (907) 269-6561.

TECHNICAL INFORMATION

1. SUMMARY OF MODIFICATIONS

This proposed modified general permit includes a provision to extend the area of coverage to include facilities off-shore of the North Slope Borough of Alaska. This coverage area is already in effect for discharges from ice roads constructed of gravel pit water. The extension would cover sanitary and/or domestic wastewater discharges and construction dewatering.

The modified proposed permit also includes a new outfall designation for the discharge of hydrostatic test waters. Hydrostatic testing must be done when pipe segments are newly installed or replaced. Water is used to pressure test the pipe to verify mechanical strength and integrity. This water is discharged when the hydrostatic testing is completed. Waters from hydrostatic testing can contain small quantities of residual materials that are left in the pipe prior to testing such as dust and welding slag. Common treatment and control measures used for hydrostatic testing waters include one or more of the following methods: velocity reduction on splash pads; erosion control; rubble mound infiltration into dry stream channels; settling ponds; pumping to upland areas; and/or pumping to ice and snow. The location and volume of discharges depend upon circumstances or the particular project involved.

Several sections of the permit have been changed to provide clarification on issues that have been confusing during the administration of the permit to date. The monitoring requirements for settleable solids and turbidity have been changed to eliminate measurement of “natural conditions” if the effluent levels are low enough. Also, some changes have been made based on the additions, changes in regulation and redundancy of permit requirements. Renumbering of Permit Parts where necessary and the correction of typographical errors has been done without being noted.

The basis for these additions and changes follow.

2. COASTAL GUIDELINES

The New Source Performance Standards in the Oil and Gas Extraction Point Source Category - Subpart D, Coastal Subcategory were promulgated December 16, 1996 (61 FR 66129). These include a provision for no discharge of garbage. This provision was not included in the original general permit but is being added in this modification.

3. RECEIVING WATERS

The receiving waters for the hydrostatic test water discharges are waters of the

United States including tundra wetlands along the Chukchi and Beaufort Sea coasts which are classified in 18 AAC 70 as Classes (1)(A), (B), and (C) for use in drinking, culinary, and food processing, agriculture, aquaculture, and industrial water supply; contact and secondary recreation; and growth and propagation of fish, shellfish, other aquatic life and wildlife. Since these waterbodies are protected for all uses, the most restrictive water quality standards will be applied in this modified general permit.

The receiving waters for the man camp sanitary and domestic discharges, hydrostatic test water discharges and construction dewatering in this permit modification include marine waters of the Chukchi or Beaufort Seas which are classified in 18 AAC 70 as Classes (2)(A), (B), (C), and (D) for use in aquaculture, seafood processing, and industrial water supply; contact and secondary recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting for consumption of raw mollusks or other raw aquatic life.

4. OCEAN DISCHARGE CRITERIA EVALUATION

EPA has finalized a document entitled “Ocean Discharge Criteria Evaluation for Area of Coverage Under the Arctic NPDES General Permit for Oil and Gas Exploration” (ODCE). Since this document covers the same area and the same or similar pollutants of concern as this modified draft general permit, EPA is proposing to use this document to satisfy the requirements of Section 403 of the Act.

The additional discharges contained within this modified draft general permit that may be made to marine waters are sanitary and domestic wastewater from construction and operation camps, construction dewatering and hydrostatic test water discharges.

The ODCE directly addresses the discharge of sanitary and domestic wastewaters. Sanitary discharges in the modified draft general permit are required to meet the state’s secondary treatment standards as well as the state’s water quality standards for fecal coliform and chlorine. Domestic discharges are not measured analytically, but are not expected to produce substantial pollutant loading. Neither of these discharges are expected to have a detrimental effect on the marine environment.

The ODCE does not specifically address discharges from construction dewatering or hydrostatic test water discharges, but comparisons can be made. The water from both types of discharges must meet effluent limitations included in the permit. If followed, these limitations should assure a low level of sediment and turbidity, the primary pollutants of concern in the discharges. These discharges should be considered less of an environmental impact than the

discharge of cement slurries which are addressed in the ODCE. No adverse impacts are expected from cement discharges so it is also expected that no adverse impacts will occur from construction dewatering or hydrostatic testing water discharges if the effluent limitations of the permit are met.

5. STATUTORY BASIS FOR PERMIT CONDITIONS

Sections 301(b), 304, 308, 401, 402 and 403 of the Act provide the basis for the permit conditions contained in the modified draft general permit. The general requirements of these sections fall into three categories, which are described below. A discussion of the basis for specific permit conditions follows in Part 6.

A. Technology-Based Effluent Limitations

NPDES permits for industrial dischargers must incorporate effluent limitations which are based on the wastewater treatment technology that can be applied to each type of industry. The Act provides for the implementation of technology-based effluent limitations in two stages. First, dischargers were required to achieve effluent limitations which reflect the application of the best practicable control technology currently available (BPT). Second, dischargers were required to achieve effluent limitations which result from best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). BCT effluent limitations apply only to conventional pollutants (pH, BOD, oil and grease, suspended solids, and fecal coliform). In no case may BCT or BAT be less stringent than BPT. Where EPA has not yet developed guidelines for a particular industry, permit conditions must be established using Best Professional Judgement (BPJ) procedures. BPT will be used in lieu of BCT and BAT where EPA has not established these technology-based limitations.

The effluent guidelines used in this modified general permit are Part 435 – Oil and Gas Extraction Point Source Category, Subpart A – Off-shore Category. The New Source Performance Standard (NSPS) limitations are applied to the discharge of sanitary and/or domestic wastewaters [40 CFR 435.15].

B. State of Alaska Water Quality Standards and Limitations

Section 301(b)(1) of the Act requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977. All discharges to state waters must comply with state and local coastal management plans as well as with state water quality standards, including the state's antidegradation policy. Discharges to state waters must also comply with limitations imposed by the state as part of its coastal

management program consistency determinations, and of its certification of NPDES permits under section 401 of the Act.

The NPDES regulations at 40 CFR 122.44(d)(1) require that permits include water quality-based limits which "Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

C. Section 308 of the Clean Water Act

Under Section 308 of the Act and 40 CFR § 122.44(i), the Director must require a discharger to conduct monitoring to determine compliance with effluent limitations and to assist in the development of effluent limitations. EPA has included several monitoring requirements in this permit, as listed below.

6. SPECIFIC PERMIT CONDITIONS

The determination of appropriate conditions for each discharge was accomplished through consideration of technology-based effluent limitations and inclusion of permit terms necessary to ensure compliance with state water quality standards. Discussions of the specific effluent limitations and monitoring requirements appear below.

A. Modular Camp Discharges — Off-shore

(1) *Sanitary Wastewater Discharges*

The sanitary wastes are made up of human body wastes from the toilets and urinals. The volume and concentration of these wastes vary widely with time, occupancy, and operational status.

(A) Technology-based limitations

(i) NSPS Requirements [40 CFR § 435.15]

(a) Floating solids: For sanitary wastes the NSPS level of treatment prohibits floating solids for facilities continuously manned by 9 or fewer persons or intermittently manned by any number of persons.

(b) Chlorine: The requirement of maintaining residual chlorine levels as close as possible to, but no less than 1 mg/L for sanitary discharges

for facilities staffed by 10 or more people.

(ii) Secondary Treatment
[18 AAC 72.040 and 18 AAC 72.990(64)]

(a) Biochemical Oxygen Demand (BOD_5): The regulations for secondary treatment require that BOD meet a 7 day average of 45 mg/L, a 30 day average of 30 mg/L and the arithmetic mean of the values for effluent samples collected in a 24-hour period does not exceed 60 mg/L.

(b) Total Suspended Solids (TSS): The regulations for secondary treatment require that SS meet a 7 day average of 45 mg/L, a 30 day average of 30 mg/L and the arithmetic mean of the values for effluent samples collected in a 24-hour period does not exceed 60 mg/L.

(c) pH: pH levels be maintained between 6 and 9 standard units.

(B) State Water Quality Standards [18 AAC 70]

The waterbodies considered to be potential receiving waters under this general permit are protected for all uses. The most protective criteria will be used in the permit. The marine and fresh water criteria result in identical permit limitations that are identical except for fecal coliform.

(i) Fecal Coliform: The most protective criteria for fecal coliform is for the Harvesting for Consumption of Raw Mollusks or Other Raw Aquatic Life. The water quality standards (WQS) state, “Based on a 5-tube decimal dilution test, the fecal coliform median MPN may not exceed 14 FC/100 ml, and not more than 10% of the samples may exceed a fecal coliform median MPN of 43 FC/100 ml.”

(ii) Chlorine: The most protective criteria for chlorine is for aquaculture. The WQS state, “May not exceed 2.0 µg/l for salmonid fish or 10.0 µg/l for other organisms.” The term “salmonid fish” is defined in

the permit as the family of fish, *Salmonidae*, which includes salmon, trout, grayling, whitefish, char, ciscoe and inconnu. The permit is structured so that there is some flexibility for those facilities discharging to waterbodies not designated for salmonid fish. The permittee is expected to consult Alaska Department of Fish and Game to determine whether the more restrictive limitation applies to their facility.

(iii) pH: The most protective limitations are for aquaculture and the growth and propagation of fish, shellfish, other aquatic life and wildlife. This level is 6.5 to 8.5 standard units.

A mixing zone for chlorine was incorporated into the original general permit through the § 401 Certification for tundra discharges of sanitary wastewater. It is expected that a similar provision for sanitary wastewater discharges to an off-shore ice environment will be included in the § 401 Certification of this general permit modification. If the State does not include the mixing zone, the water quality standards for chlorine will apply at the end of the pipe. The limitation on fecal coliform will assure that disinfection requirements are met without invoking the technology-based limitation requiring a minimum chlorine level.

(2) Domestic Wastewater Discharges

Domestic wastewater refers to materials discharged from sinks, showers, laundries, safety showers, eyewash stations and galleys.

(A) Technology-based Limitations
NSPS Requirements [40 CFR § 435.15]

(i) No discharge of Floating solids.

(ii) No discharge of Foam.

(iii) No discharge of garbage.

(B) Water quality-based Limitations

Oil and Grease. Applicable state standards for oil and grease are limited to "shall not cause a film, sheen, or discoloration on the surface or floor of the water body or adjoining shorelines." The potential source of oil and grease in this discharge would be excess cooking oils.

While the ordinary cleaning of utensil and cooking appliances is acceptable, the discharge of excess cooking oil is not. EPA has determined that the state criteria can be met by requiring that no kitchen oils from food preparation be mixed with the wastewater being discharged.

The requirement of low phosphate detergent use shall be included in the BMP Plan required for this type of discharge. The inclusion of this BMP will avoid the need for a phosphate limit yet still control nutrient loading.

(3) *Combined Discharges*

If sanitary wastewaters are combined with domestic wastewaters, the entire flow is then considered to be sanitary wastewater and the limitations contained in the permit for sanitary wastes apply to the discharge.

B. Hydrostatic Test Water

(1) *Technology-based limitations*

There are no EPA effluent guidelines for discharges from hydrostatic testing. Therefore, the limitations in this permit are based on Best Professional Judgement (BPJ) which has been established for this type of discharge in the permit for Alyeska Pipeline Service, AK-005056-3. For this discharge, EPA is required to establish limitations that can be achieved through the use of Best Conventional Pollutant Control Technology (BCT).

Sediment. The constituents of the discharge generated by hydrostatic testing are primarily small quantities of inorganic residual materials that are left in the pipe prior to testing, such as dust and welding slag. It has been determined that appropriate technology for these discharges are physical treatment methods, such as filtration, overland treatment, and/or settling ponds that can control settleable solids and turbidity. This technology is therefore established as BCT and BAT for hydrostatic testing discharges. The effluent limit for sediment is 0.2 ml/L.

(2) *Water quality-based limitations*

(A) Sediment. There is a reasonable potential for violations to occur should pumping be conducted improperly. The sediment criteria calls for “no measurable increase in concentrations of settleable solids above natural conditions,

as measure by the volumetric Imhoff cone."

(B) Turbidity. Due to the nature of the discharge, a turbidity limitation is being proposed in the general permit for this category of discharge. According to the WQS, the most protective turbidity criteria applies to fresh water sources classified for use as drinking water and contact recreation not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity when is 50 NTU or less; and more than 10% increase in turbidity when the natural conditions is more than 50 NTU, not to exceed a maximum increase of 25 NTU." The most protective marine criteria is for aquaculture, contact and secondary recreation and states "May not exceed 25 nephelometric turbidity units (NTU)."

(C) pH. For fresh waters, the most protective limitations on pH are for aquaculture and contact recreation. This level is 6.5 to 8.5 standard units. For marine waters, the most protective limitations are for aquaculture and the growth and propagation of fish, shellfish, other aquatic life and wildlife. This level is 6.5 to 8.5 standard units.

(D) Oil and Grease/Hydrocarbons. Applicable state standards for oil and grease are limited to "shall not cause a film, sheen, or discoloration on the surfaces or floor of the water body or adjoining shorelines." EPA has determined that the state criteria can be met by a requirement of no discharge of floating solids, visible foam, or oily wastes which produce a sheen on the surface of the receiving water.

7. BEST MANAGEMENT PRACTICES (BMP) PLAN AND MONITORING REQUIREMENTS

The jusitification for these requirements in the modified general permit are the same as those used in the original general permit.

8. NOTICE OF INTENT (NOI) LANGUAGE MODIFICATION

The language in the original general permit was confusing to many permittees. The intent of the original language was to give exploration facilities the opportunity to notify EPA that there was going to be a discharge without specifying exactly where it would be until the last minute. The confusion came on the part of operators who knew where they would be and when they would be there.

The new language does several things. It requires only one notice if a facility knows where the discharge will be when the notice is filed. The language still gives the opportunity to submit a notice without knowing an exact location and then giving more details at a later date. The language keeps the ability of a mobile camp to designate an area of coverage rather than a single point of discharge. The new language also clarifies the misconception that a permit was not effective until 45 days after the NOI was submitted. This was never the intent of this section. If an NOI was received on September 26 and the discharge was authorized by letter on September 29, the permit has no restrictions making the effective date of the permit 45 days after September 26. There are some permits that specify winter discharges that were issued in the summer. There is an expectation that a time delay applies in those instances.

9. SETTLEABLE SOLIDS AND TURBIDITY

The footnote in tables where settleable solids monitoring is required has been changed so that monitoring of natural conditions is not mandatory if the effluent levels of this parameter are at low levels. This change occurs in the sections for gravel pit dewatering and construction dewatering. The water quality standards indicate that the limit on sediment via measuring settleable solids is "No increase above natural conditions." A facility reporting non-detect (less than the detection level of 0.2 ml/L) for the discharge would be in compliance with the water quality standard no matter what the level of sediment was in the receiving water.

The turbidity monitoring requirements have also been changed so that measurement of natural conditions is not required should the effluent measures show low levels. This change occurs in the sections for construction dewatering and appears in the section for hydrostatic testing discharges. The water quality standards indicate that the limit on turbidity is "5 NTUs above natural conditions." A facility reporting 5 NTUs or less for the discharge would be in compliance with the water quality standard no matter what the level of turbidity was in the receiving water.

10. REDUNDANCIES, CHANGES AND ADDITIONS

A. **Redundancies**

(1) In Permit Part I.A. there seemed to be a redundancy in the table saying that discharges from these were covered in marine waters and then footnoting it to say that this would be off-shore of the coverage area. The footnote has been eliminated.

(2) In Permit Parts II.A.1.c., II.A.3. and II.B.3. the original general permit required that a discharge be moved every 5 days with the

basis of this requirement being avoidance of chlorine burn as well as nutrient and/or sediment loading of the tundra. This level of control is also expressed in the BMP requirements for these sections so the requirement dictating how something might be done has been removed since that the permit already says it must be done. This give facilities more flexibility in how they meet these requirements of the permit.

(3) Permit Parts II.C.2. and II.D.2. have monitoring requirements that are specific to open water discharges when Permit Parts II.C.3.b. and II.D.3.b. say that monitoring to non-open waters does not apply. The footnotes in the tables have been revised to eliminate the mention of discharges to open waters.

B. **Changes**

(1) In the original general permit, Permit Parts II.C.3.b. and II.D.3.b. said, “Although effluent limitations will not be measured . . .” In the development of this modification, it was pointed out that limitations are not measured but parameters are. This change has been incorporated into this modification.

(2) Permit Part IV.B.1. lists the civil and administrative penalties for a violation of the permit as $25,000. A change to $27,500 was noticed in the Federal Register (61 FR 69369, December 31, 1996) so this new level is included in the modification of this general permit.

(3) Permit part II.F.1. has been changed due to changes in the notification requirements to gain coverage under this general permit. Since the second notice is no longer required from all facilities, the BMP Plan is required to be certified at least seven days prior to the initiation of discharges. The time frame is the same as in the original general permit but the link to a second notice has been removed.

C. **Additions**

In Permit Part VI. (Definitions), the definitions of the terms *garbage, off-shore, open waters* and *victual waste* have been added based on other additions and changes to the general permit.

11. OTHER LEGAL REQUIREMENTS

A. Oil Spill Requirements

Section 311 of the Act prohibits the discharge of oil and hazardous materials in harmful quantities. Routine discharges specifically controlled by a permit are excluded from the provisions of Section 311. However, this general permit does not preclude the institution of legal action or relieve permittees from any responsibilities, or penalties for other, unauthorized discharges of oil and hazardous materials which are covered by Section 311 of the Act.

B. Coastal Zone Management Act

A determination that the activities allowed by this draft modified general permit are consistent with the Alaska Coastal Management Plan must be made in accordance with the Coastal Zone Management Act before a permit will be issued.

C. State Water Quality Standards and State Certification

Whereas state waters are involved in this draft modified general permit, the provisions of Section 401 of the Act will apply. Furthermore, in accordance with 40 CFR § 124.01(c)(1), public notice of the draft modified permit has been provided to the State of Alaska and Alaska state agencies having jurisdiction over fish, shellfish, and wildlife resources, and over coastal zone management plans.

D. Marine Protection, Research and Sanctuaries Act

No marine sanctuaries as designated by this Act exist in the vicinity of the permit areas.

E. Endangered Species Act

EPA has made a decision that the discharges authorized in this modified general permit are not likely to affect species of concern in the project area. Letters were sent to the U.S. Fish and Wildlife Service (USFW) and to the National Marine Fisheries Service (NMFS) on October 6, 1997, requesting information to the extent of threatened and endangered species on the North Slope of Alaska relating to the modifications in this proposed modified general permit.

REFERENCES

Eddy, Samuel and James C. Underhill.

how to know the freshwater fishes.

Snoeyink, Vernon L. and David Jenkins. 1980.
Water Chemistry.

U.S. EPA. 1993.
Guidance Manual for Developing Best Management Practices (BMP). October 1993.

U.S. EPA. 1995.
Ocean Discharge Criteria Evaluation for Area of Coverage Under the Arctic NPDES General Permit for Oil and Gas Exploration. Prepared with the assistance of Tetra Tech, Inc. March 1995.

National Pollutant Discharge Elimination System (NPDES) permit AK-005056-3 with corresponding fact sheet. Effective July 30, 1993. Expires July 30, 1998.